

APPENDIX B: Trend Tables, 1987-1997

Appendix B includes the following two tables:

- B1: Number of Doctorate Recipients, by Subfield, 1987-1997
- B2: Number of Doctorate Recipients, by Sex, Race/Ethnicity, and Citizenship, 1977, 1982, and 1987-1997

TABLE B-1: Table B-1 presents data for the most recent decade by subfield of doctorate. In general, the subfields correspond to the fields on the questionnaire's Specialties List located at the back of this report; some, however, do not appear on the current Specialties List because they are no longer included in the survey taxonomy. A dash (-) in a column indicates that the field was not on the Specialties List for that year.

Field groupings in this table may differ from those in reports published by federal sponsors of the Survey of Earned Doctorates (SED); see inside the back cover for a description of field groupings as reported in these tables. The "general" field categories—for example, "chemistry, general"—include individuals who either received the doctorate in the general subject area or did not indicate a particular specialty field. The "other" field categories—for example, "chemistry, other"—include individuals whose specified doctoral discipline was not among the specialty fields.

The seven tables in Appendix A present additional information on the most recent cohort of Ph.D.s by field of doctorate.

TABLE B-2: Table B-2 displays, by sex and citizenship, data on the race/ethnicity of doctorate recipients for 1977, 1982 and the past decade. Table B-2 contains three panels, each displayed on a separate page. The first panel includes all doctorates; the others disaggregate the data by sex.

New follow-up procedures implemented in 1990 and later years have increased coverage of several variables, including citizenship and race/ethnicity. One result has been greater postsurvey adjustment to racial/ethnic data than in earlier years. (Note: The greatest adjustment was to the numbers of black Ph.D.s in 1990 and 1991—an increase of about 7.5 percent each year.)

The racial/ethnic question has undergone several revisions over the years. In 1977 it was modified to correspond to a standard question format recommended by the Federal Interagency Committee on Education and adopted by the Office of Management and Budget (OMB) for use in federally sponsored surveys; an explanation of the effect of these changes is detailed on page 13 of *Summary Report 1977*. (Note: Changes in the OMB guidelines prompted the moving of persons having origins in the Indian subcontinent from the white category to the Asian category.) In 1980 the item was further revised in two ways: (1) the

Hispanic category was subdivided into Puerto Rican, Mexican American, and other Hispanic to provide more detail for users of the racial/ethnic data, and (2) respondents were asked to check only one racial category. (Before 1980 doctorate recipients could check more than one category to indicate their race.) The item was modified again 1982 to separate the questions on race and ethnicity. Since then respondents have been asked to first check one of four racial group categories (American Indian, Asian, black, or white) and then indicate whether or not they are Hispanic. In Table B-2, *Ph.D.s who reported Hispanic heritage, regardless of racial designation, are counted as Hispanic*. The remaining survey respondents are then counted in their respective racial groups. (Note: Doctorate recipients who checked the category “American Indian or Alaskan Native” are identified as American Indian in this report.)

Tables A-2 and A-4 in Appendix A present additional information on the most recent cohort of Ph.D.s by race/ethnicity.

APPENDIX TABLE B-1 Number of Doctorate Recipients, by Subfield, 1987-1997

	Year of Doctorate										
	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997
TOTAL ALL FIELDS	32,370	33,500	34,327	36,067	37,534	38,890	39,801	41,034	41,743	42,415	42,705*
PHYSICAL SCIENCES	<u>5,030</u>	<u>5,309</u>	<u>5,455</u>	<u>5,859</u>	<u>6,280</u>	<u>6,502</u>	<u>6,496</u>	<u>6,822</u>	<u>6,808</u>	<u>6,675</u>	<u>6,574</u>
MATHEMATICS	740	749	859	892	1,039	1,058	1,146	1,118	1,190	1,122	1,112
Applied Mathematics	131	142	158	185	193	213	188	206	211	230	241
Algebra	57	54	50	39	72	69	84	78	82	78	79
Analysis and Functional Analysis	86	76	103	90	132	105	105	107	99	100	103
Geometry	30	44	47	42	66	45	44	35	45	72	70
Logic	18	20	12	19	23	28	19	29	35	16	23
Number Theory	15	26	23	26	30	25	42	37	35	42	46
Mathematical Statistics	143	152	167	157	206	217	228	205	205	178	182
Topology	41	27	37	50	57	58	54	38	51	55	62
Computing Theory and Practice	14	12	12	12	19	12	18	16	14	18	14
Operations Research	22	29	22	29	16	22	37	26	36	21	20
Mathematics, General	137	134	177	191	180	209	276	269	305	233	143
Mathematics, Other	46	33	51	52	45	55	51	72	72	79	129
COMPUTER SCIENCE	450	515	612	705	800	869	880	903	997	921	889
Computer Science	384	442	519	612	720	791	825	833	913	837	812
Information Sciences and Systems	66	73	93	93	80	78	55	70	84	84	77
PHYSICS AND ASTRONOMY	1,237	1,302	1,274	1,393	1,411	1,537	1,544	1,692	1,652	1,677	1,576
Astronomy	46	66	49	52	50	55	76	66	89	84	72
Astrophysics	54	64	64	76	75	79	69	78	84	108	125
Acoustics	17	16	15	21	13	18	27	20	18	19	19
Chemical. and Atomic/Molecular	79	77	74	87	76	85	95	140	110	129	105
Electron	6	2	4	2	1	-	-	-	-	-	-
Elementary Particle	159	174	135	163	182	153	170	176	183	175	170
Fluids	21	17	14	17	14	17	19	12	18	21	24
Nuclear	74	88	81	73	66	86	82	90	91	87	105
Optics	50	65	78	76	85	94	96	104	98	129	123
Plasma and High-Temperature	72	65	61	42	58	65	62	79	46	48	39
Polymer	15	20	7	11	17	17	29	29	23	33	19
Solid State and Low-Temperature	287	252	296	306	372	408	336	388	371	364	327
Physics, General	238	271	269	323	247	297	340	343	355	324	246
Physics, Other	119	125	127	144	155	163	143	167	166	156	202
CHEMISTRY	1,975	2,015	1,970	2,100	2,194	2,214	2,137	2,257	2,162	2,148	2,115
Analytical	314	301	289	293	304	304	286	334	317	346	351
Inorganic	240	250	256	242	260	268	237	262	258	249	276
Nuclear	13	7	6	13	14	7	8	10	5	5	8
Organic	511	531	511	452	538	512	518	544	483	506	567
Medicinal/Pharmaceutical	65	73	64	48	83	69	99	102	96	96	107
Physical	302	318	310	325	364	398	336	334	338	300	333
Polymer	96	81	78	81	111	83	107	117	116	121	110
Theoretical	46	50	46	55	45	59	53	52	40	57	48
Chemistry, General	297	310	312	524	400	449	431	447	458	396	231
Chemistry, Other	91	94	98	67	75	65	62	55	51	72	84
EARTH, ATMOS., & MARINE SCI.	628	728	740	769	836	824	789	852	807	807	882
Atmospheric Physics and Chem.	24	19	15	18	20	36	13	27	27	22	43
Atmospheric Dynamics	17	25	16	20	21	23	23	27	16	21	25
Meteorology	17	35	27	20	31	28	34	32	25	35	28
Atmos. Sci./Meteorology, General	16	14	14	23	26	27	22	37	44	33	36
Atmos.Sci./Meteorology, Other	13	10	15	2	10	6	7	6	18	14	15
Geology	114	144	165	166	192	166	197	194	186	162	162
Geochemistry	31	46	39	56	64	62	50	59	42	49	50
Geophysics and Seismology	75	83	87	91	117	108	101	106	93	101	105
Paleontology	21	24	17	21	24	25	21	17	20	14	23
Mineralogy, Petrology	24	19	36	26	36	29	9	21	19	23	18
Stratigraphy, Sedimentation	22	30	24	25	29	23	28	27	16	12	23
Geomorphology and Glacial Geology	18	9	10	14	18	12	16	13	11	11	26
Applied Geology	5	7	6	6	1	0	0	0	0	0	-
Geological & Related Sci., General	18	8	19	31	30	18	15	18	21	27	15
Geological & Related Sci., Other	29	31	28	28	33	31	17	24	22	22	17
Environmental Science	29	58	68	50	35	57	68	61	81	83	92
Hydrology and Water Resources	18	24	24	13	16	29	25	30	24	31	43
Oceanography	73	81	87	89	85	82	98	91	83	107	112
Marine Sciences	38	28	26	39	27	32	27	34	32	27	29
Misc. Physical Sciences, Other	26	33	17	31	21	30	18	28	27	13	20
ENGINEERING	<u>3,712</u>	<u>4,187</u>	<u>4,543</u>	<u>4,894</u>	<u>5,214</u>	<u>5,438</u>	<u>5,698</u>	<u>5,822</u>	<u>6,008</u>	<u>6,305</u>	<u>6,052</u>
Aerospace, Aeronautic. & Astronautic.	142	150	178	192	207	234	228	230	252	287	272
Agricultural	74	70	102	101	83	84	86	89	73	104	78
Bioengineering and Biomedical	75	114	115	129	149	147	171	173	189	220	205
Ceramic Sciences	42	30	35	43	58	42	42	39	39	41	40
Chemical	527	624	625	561	621	607	624	630	602	681	659
Civil	441	488	498	505	509	540	563	602	572	599	591
Communications	26	24	25	35	21	30	22	33	29	32	32
Computer	62	100	117	131	178	175	167	202	189	208	219
Electrical, Electronics	691	886	995	1,110	1,206	1,278	1,354	1,438	1,513	1,500	1,444
Engineering Mechanics	113	105	110	111	113	132	128	132	108	105	95
Engineering Physics	13	9	16	16	23	25	21	17	17	37	24
Engineering Science	26	32	27	37	42	51	55	46	56	52	46

* Total includes 651 respondents with missing data for doctoral field.

NOTE: Dash (-) indicates that the field was not on the questionnaire's Specialties List that year. Field groupings may differ from those in reports published by federal sponsors of the Survey of Earned Doctorates.

Source: NSF/NIH/NEH/USED/USDA, Survey of Earned Doctorates

APPENDIX TABLE B-1 Number of Doctorate Recipients, by Subfield, 1987-1997

	Year of Doctorate										
	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997
Environmental Health Engineering	36	43	40	48	66	54	61	82	84	98	62
Industrial/Manufacturing	120	127	162	151	165	196	236	228	284	258	241
Materials Science	238	252	257	307	361	365	416	433	476	470	477
Mechanical	544	610	650	773	762	855	902	883	917	947	915
Metallurgical	112	92	88	90	70	78	77	67	73	61	56
Mining and Mineral	27	17	33	39	38	26	24	23	19	31	33
Naval Architecture, Marine Eng.	7	9	9	8	5	-	-	-	-	-	-
Nuclear	84	104	86	114	107	120	108	85	105	113	99
Ocean	24	21	20	17	21	21	24	29	21	26	34
Operations Research	51	44	68	46	76	56	56	47	48	74	75
Petroleum	23	33	29	49	28	54	52	42	48	52	51
Polymer/Plastics	34	28	58	48	42	64	61	53	58	65	54
Systems	47	44	30	51	48	37	57	51	47	47	49
Engineering, General	54	49	61	75	78	64	47	39	60	60	50
Engineering, Other	79	82	109	107	137	103	116	129	129	137	151
LIFE SCIENCES	5,754	6,164	6,342	6,605	6,933	7,115	7,395	7,739	7,918	8,255	8,213
BIOLOGICAL SCIENCES	3,839	4,111	4,116	4,328	4,650	4,799	5,092	5,203	5,376	5,723	5,717
Biochemistry	573	612	669	678	765	715	846	804	824	794	821
Biomedical Sciences	-	-	-	-	-	-	-	-	93	140	158
Biophysics	86	97	87	103	100	125	103	123	155	142	148
Biotechnology Research	-	-	-	-	-	-	8	14	4	6	11
Bacteriology	13	7	11	15	11	13	14	18	13	16	13
Plant Genetics	26	26	18	31	23	33	41	30	35	41	29
Plant Pathology	33	30	22	37	50	32	41	40	32	38	33
Plant Physiology	62	74	47	51	65	68	48	70	55	73	46
Botany, Other	106	112	117	104	105	107	105	117	102	105	91
Anatomy	92	88	80	70	77	75	76	66	64	47	50
Biometrics and Biostatistics	37	47	46	47	59	63	74	72	67	81	85
Cell Biology	127	118	133	145	149	188	231	237	236	233	249
Ecology	158	155	161	166	189	180	177	201	203	245	250
Developmental Biology/Embryology	6	7	10	22	37	48	57	62	64	96	114
Endocrinology	19	21	21	24	33	27	16	26	20	24	17
Entomology	123	133	139	147	138	139	114	123	121	136	122
Biological Immunology	136	179	152	153	177	181	169	161	190	238	211
Molecular Biology	303	364	413	413	481	527	582	598	617	651	768
Microbiology	301	333	340	335	372	377	433	423	426	444	407
Neuroscience	153	163	181	192	238	238	276	284	309	404	432
Nutritional Sciences	141	127	128	118	106	132	134	147	136	142	123
Parasitology	16	20	20	13	20	17	17	22	14	22	17
Toxicology	115	108	111	91	86	105	100	120	126	138	180
Human and Animal Genetics	113	118	112	153	160	142	172	203	202	212	213
Human and Animal Pathology	127	112	105	101	122	114	130	128	109	135	106
Human and Animal Pharmacology	234	252	242	244	266	279	274	259	278	316	296
Human and Animal Physiology	248	225	272	278	272	266	271	289	262	275	225
Zoology, Other	139	167	132	122	125	134	114	117	145	100	96
Biological Sciences, General	229	256	231	333	278	315	305	288	348	291	193
Biological Sciences, Other	123	160	116	142	146	159	164	161	126	138	213
HEALTH SCIENCES	800	882	974	956	1,041	1,112	1,197	1,296	1,330	1,324	1,394
Speech-Lang. Pathology & Audiology	107	93	91	93	90	82	98	95	106	94	83
Environmental Health	29	52	35	38	38	44	38	51	51	58	67
Health Systems/Services Admin.	-	-	-	-	-	-	35	53	62	60	66
Public Health	96	121	129	123	132	157	153	142	152	156	139
Epidemiology	86	97	107	102	115	108	120	168	153	149	152
Exercise Physiology/Sci., Kinesiology	-	-	-	-	-	-	-	87	118	105	103
Nursing	218	247	308	261	325	338	373	336	354	354	413
Pharmacy	133	95	111	116	115	160	146	148	144	145	142
Rehabilitation/Therapeutic Services	-	-	-	-	17	25	36	43	20	26	28
Veterinary Medicine	31	48	48	70	56	63	61	56	55	65	47
Health Sciences, General	12	29	19	36	28	30	38	41	35	22	45
Health Sciences, Other	88	100	126	117	125	105	99	76	80	90	109
AGRICULTURAL SCIENCES	1,115	1,171	1,252	1,321	1,242	1,204	1,106	1,240	1,212	1,208	1,102
Agricultural Economics	139	156	164	145	168	141	137	162	173	169	135
Agricultural Business & Management	-	0	2	2	1	0	1	0	3	2	1
Animal Breeding and Genetics	23	27	23	22	18	23	18	17	19	12	24
Animal Nutrition	82	54	67	54	57	41	52	58	50	54	55
Dairy Science	-	12	16	20	19	14	11	11	14	9	14
Poultry Science	-	10	11	17	13	22	16	21	11	12	9
Fisheries Science and Management	32	42	34	42	39	26	38	48	49	46	43
Animal Sciences, Other	76	86	95	90	92	97	74	86	85	90	59
Agronomy and Crop Science	143	141	140	143	117	123	104	143	114	110	76
Plant Breeding and Genetics	70	83	64	87	69	82	68	81	72	63	67
Plant Pathology	76	46	63	64	90	63	58	55	52	90	64
Plant Protection-Pest Management	-	1	6	4	2	-	-	-	-	-	-
Plant Sciences, Other	20	23	15	23	17	29	28	24	30	21	19
Food Sciences	131	16	1	0	0	0	0	0	-	-	-
Food Distribution	-	0	0	0	0	0	0	1	-	-	-
Food Engineering	-	6	11	10	12	14	9	16	7	7	11
Food Sciences, Other	-	119	147	141	137	151	141	152	135	142	172
Soil Sciences	74	18	-	-	-	-	-	-	-	-	-
Soil Chemistry/Microbiology	-	33	28	27	24	24	26	21	27	29	32
Soil Sciences, Other	-	62	75	91	78	63	59	69	72	78	55
Horticulture Science	71	61	75	101	78	65	62	65	67	73	44

Source: NSF/NIH/NEH/USED/USDA, Survey of Earned Doctorates

APPENDIX TABLE B-1 Number of Doctorate Recipients, by Subfield, 1987-1997

	Year of Doctorate										
	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997
Wildlife Management	23	3	-	-	-	-	-	-	-	-	-
Forestry Science	100	15	-	-	-	-	-	-	-	-	-
Forest Biology	-	21	22	27	17	29	18	20	24	19	22
Forest Engineering	-	3	1	2	2	2	3	0	4	0	13
Forest Management	-	18	21	14	22	16	17	17	20	22	21
Wood Sci. & Pulp/Paper Tech.	-	7	16	16	16	21	20	26	26	18	25
Conservation/Renewable Nat. Res.	-	7	12	16	19	9	13	21	24	13	17
Forestry and Related Sci., Other	-	35	57	62	45	62	55	59	71	56	52
Wildlife/Range Management	-	36	52	58	59	55	54	52	50	64	48
Agricultural Sciences, General	5	9	7	5	3	9	10	4	6	5	8
Agricultural Sciences, Other	50	21	27	38	28	23	14	11	7	4	16
SOCIAL SCIENCES (INCL. PSYCH.)	5,790	5,781	5,961	6,093	6,152	6,216	6,545	6,613	6,635	6,814	6,917
Anthropology	352	325	325	324	341	320	342	384	375	396	430
Area Studies	17	16	17	22	24	33	36	34	27	28	10
Criminology	29	43	32	42	35	37	39	41	44	60	50
Demography/Population Studies	26	19	22	20	28	17	22	23	15	11	24
Economics	796	825	872	836	861	885	906	913	952	979	982
Econometrics	25	27	26	26	24	25	24	26	27	29	29
Geography	111	129	105	131	108	111	137	146	150	165	145
International Relations/Affairs	82	77	94	97	88	76	102	112	73	99	84
Political Science and Government	404	392	430	462	434	513	507	589	600	621	654
Public Policy Analysis	83	73	79	87	111	107	98	94	93	104	128
Sociology	423	449	436	428	465	495	513	525	540	516	571
Statistics	49	47	69	69	31	29	48	46	48	48	56
Urban Affairs/Studies	72	86	62	67	90	86	123	132	103	106	91
Social Sciences, General	30	28	26	23	36	33	32	21	35	26	20
Social Sciences, Other	118	171	158	178	226	186	196	148	124	135	154
PSYCHOLOGY	3,173	3,074	3,208	3,281	3,250	3,263	3,420	3,250	3,279	3,340	3,366
Clinical	1,214	1,095	1,259	1,337	1,305	1,309	1,373	1,285	1,291	1,325	1,261
Cognitive and Psycholinguistics	80	83	79	76	94	101	104	129	104	128	162
Comparative	9	7	8	8	7	2	5	8	4	3	6
Counseling	486	482	501	466	497	507	488	497	470	464	477
Developmental and Child	200	176	148	159	155	170	202	179	152	188	211
Human/Individual & Family Develop.	-	-	-	-	-	-	-	129	150	151	123
Experimental	146	135	146	143	142	154	143	139	151	128	140
Educational	89	103	105	98	110	91	91	69	74	92	60
Family and Marriage Counseling	-	-	-	-	-	-	-	-	57	52	61
Industrial and Organizational	107	118	104	126	142	138	159	137	155	162	184
Personality	25	18	28	20	13	17	22	19	16	24	25
Physiological/Psychobiology	69	85	62	46	45	55	85	93	92	80	77
Psychometrics	9	11	6	8	9	5	9	5	10	11	11
Quantitative	13	12	11	15	7	10	16	17	13	19	17
School	93	115	107	82	82	88	95	84	91	82	84
Social	133	140	128	145	147	139	125	153	155	170	179
Psychology, General	343	368	364	371	324	295	306	280	306	279	286
Psychology, Other	157	126	152	181	171	182	197	156	138	133	125
HUMANITIES	3,500	3,555	3,552	3,822	4,099	4,444	4,482	4,744	5,061	5,116	5,387
History, American	198	209	206	211	251	277	269	310	344	355	371
History, Asian	-	-	-	-	-	-	-	-	43	54	54
History, European	121	127	107	151	127	176	162	180	185	187	245
History/Philosophy of Sci. & Tech.	25	22	20	26	27	28	37	27	41	37	34
History, General	94	103	85	111	121	102	116	140	148	101	79
History, Other	148	142	120	113	137	141	142	144	128	123	171
Classics	55	56	51	58	55	58	61	84	62	72	53
Comparative Literature	121	139	103	97	150	163	153	163	191	164	181
Linguistics	199	166	188	167	227	266	214	221	201	230	243
Speech and Rhetorical Studies	37	37	35	38	86	98	111	142	139	155	132
Letters, General	25	16	13	19	17	18	18	22	43	28	23
Letters, Other	39	43	60	52	44	38	37	25	34	61	60
American Studies	75	70	76	72	92	81	101	88	94	115	80
Archeology	31	23	26	22	33	33	38	34	35	21	34
Art History/Criticism/Conservation	143	134	145	135	125	154	158	182	181	176	188
Music	499	504	521	572	587	641	613	685	713	699	728
Philosophy	233	222	270	243	285	279	274	302	298	369	458
Religion	182	217	215	219	187	231	257	252	248	317	295
Drama/Theater Arts	82	92	79	106	91	95	91	102	80	103	115
LANGUAGE AND LITERATURE	1,112	1,147	1,152	1,308	1,350	1,465	1,524	1,537	1,718	1,618	1,733
American	190	186	192	229	253	291	293	296	327	314	405
English	478	531	528	567	599	612	655	647	752	699	675
French	103	101	106	123	100	124	137	129	151	142	150
German	77	76	73	78	71	96	105	67	93	88	83
Italian	21	14	20	25	32	20	19	32	35	24	23
Spanish	133	137	134	173	173	179	179	212	209	196	249
Russian	19	13	13	19	25	28	28	38	28	37	39
Slavic	5	5	7	7	14	15	13	10	16	11	9
Chinese	13	12	9	16	19	20	21	25	20	29	23
Japanese	9	6	13	9	7	12	11	12	7	10	19
Hebrew	13	12	10	14	11	20	15	10	11	12	8
Arabic	8	14	6	7	4	12	10	4	8	6	4
Other Language and Literature	43	40	41	41	42	36	38	55	61	50	46

Source: NSF/NIH/NEH/USED/USDA, Survey of Earned Doctorates

APPENDIX TABLE B-1 Number of Doctorate Recipients, by Subfield, 1987-1997

	Year of Doctorate										
	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997
Humanities, General	23	25	19	28	29	21	30	32	25	39	23
Humanities, Other	58	61	61	74	78	79	76	72	110	92	87
EDUCATION	6,454	6,362	6,281	6,510	6,454	6,677	6,689	6,708	6,649	6,772	6,497
Curriculum and Instruction	762	815	841	839	807	900	856	819	896	896	904
Educational Admin. and Supervision	1,686	1,749	1,633	1,663	1,428	1,290	1,340	1,207	1,086	1,170	1,020
Educational Leadership	1	0	0	1	485	694	783	792	889	989	1,036
Educ./Instruct. Media Design	68	67	76	55	73	62	96	111	121	107	92
Educ. Stat./Research Methods	73	51	59	59	80	61	64	68	63	76	58
Educ.Assess., Test., & Meas.	37	55	42	40	32	45	23	28	19	32	29
Educational Psychology	320	323	301	323	323	346	290	311	297	309	356
School Psychology	95	98	85	87	90	88	86	97	71	114	115
Social/Phil. Found. of Educ.	114	122	110	86	109	101	109	140	130	125	135
Special Education	248	257	259	225	226	260	277	241	254	278	263
Counseling Educ./Couns. & Guidance	315	325	264	301	270	259	288	284	268	277	203
Higher Educ./ Evaluation & Research	570	399	373	424	344	381	357	428	457	481	509
Pre-elementary/Early Childhood	73	83	63	42	85	98	97	91	70	81	42
Elementary Education	105	93	99	110	73	73	65	71	61	46	54
Junior High Education	1	1	-	-	-	-	-	-	-	-	-
Secondary Education	65	67	53	56	40	28	33	24	24	34	25
Adult and Continuing Education	203	229	236	211	210	208	233	215	235	210	161
TEACHING FIELDS	1,065	989	970	922	973	1,008	943	960	924	863	894
Agricultural Education	39	32	35	38	49	43	54	52	35	32	38
Art Education	52	42	39	44	28	46	38	33	39	41	29
Business Education	36	44	40	34	32	16	27	25	21	20	22
English Education	72	57	51	52	58	61	53	56	60	57	60
Foreign Languages Education	37	53	33	31	46	50	48	54	60	44	45
Health Education	91	86	100	95	78	98	83	97	99	90	59
Home Economics Education	17	17	19	10	21	12	14	11	15	13	13
Technical/Industrial Arts Education	24	11	17	17	13	11	16	20	15	11	19
Mathematics Education	74	56	69	65	73	62	69	74	92	100	88
Music Education	109	76	97	78	96	96	80	89	96	91	98
Nursing Education	36	34	29	24	18	29	19	24	18	23	22
Physical Education and Coaching	192	184	176	191	185	167	161	139	104	101	108
Reading Education	94	74	95	82	102	121	95	97	85	66	68
Science Education	63	67	48	72	72	73	73	85	73	96	73
Social Science Education	17	23	13	11	19	19	9	10	14	12	27
Speech Education	5	5	1	5	1	-	-	-	-	-	-
Technical Education	-	13	28	15	25	35	21	30	20	24	32
Trade and Industrial Education	68	67	47	18	17	11	24	24	13	12	16
Teacher Ed./Spec. Acad. & Voc., Other	39	48	33	40	40	58	59	40	65	30	77
Education, General	368	358	414	535	428	443	411	484	429	353	317
Education, Other	285	281	403	531	378	332	338	337	355	331	284
PROFESSIONAL/OTHER FIELDS	2,130	2,142	2,193	2,284	2,402	2,498	2,496	2,586	2,664	2,478	3,065
BUSINESS AND MANAGEMENT	981	1,033	1,067	1,036	1,163	1,248	1,281	1,283	1,327	1,276	1,221
Accounting	160	175	186	172	172	180	183	179	168	156	149
Banking/Financial Support Services	156	148	151	134	172	172	170	134	163	114	69
Business Admin. and Management	225	265	245	277	204	241	324	319	340	393	408
Business/Managerial Economics	26	27	27	21	19	21	33	40	37	38	48
International Business	-	-	-	-	-	-	-	22	23	36	39
Mgmt. Info. Sys./Business Data Proc.	-	-	-	-	72	103	102	117	111	94	100
Marketing Management and Research	113	126	130	120	134	139	166	167	153	153	151
Business Statistics	8	6	15	10	5	-	-	-	-	-	-
Operations Research	64	50	52	46	58	67	63	54	59	64	44
Organizational Behavior	66	74	95	64	72	81	73	102	100	108	122
Bus. Mgmt./Admin. Serv., General	75	75	57	70	123	112	87	87	92	67	27
Bus. Mgmt./Admin. Serv., Other	88	87	109	122	132	132	80	62	81	53	64
COMMUNICATIONS	309	247	306	323	332	330	321	371	380	389	325
Communications Research	90	72	85	87	72	45	33	40	40	60	51
Journalism	7	21	15	21	7	-	-	-	-	-	-
Mass Communications	-	-	-	-	68	85	117	156	121	137	114
Radio and Television	16	12	29	17	6	-	-	-	-	-	-
Communication Theory	-	-	-	-	25	47	41	45	53	37	40
Communications, General	102	70	79	86	70	76	69	68	77	81	71
Communications, Other	94	72	98	112	84	77	61	62	89	74	49
OTHER PROFESSIONAL FIELDS	778	812	766	858	836	880	867	891	931	774	756
Architectural Environmental Design	33	31	43	41	67	60	54	67	55	61	65
Home Economics	67	58	55	74	29	58	57	31	31	28	36
Law	29	33	26	34	23	20	29	33	37	26	26
Library Science	48	57	60	42	52	51	70	42	47	49	41
Parks/Recreation/Leisure/Fitness	-	-	-	-	-	-	44	37	54	29	20
Public Administration	78	92	97	88	107	108	117	135	128	104	95
Social Work	214	241	206	246	240	248	237	272	303	256	237
Theology/Religious Education	254	251	232	271	273	292	243	262	273	213	176
Professional Fields, General	1	2	0	3	3	1	1	1	1	2	4
Professional Fields, Other	54	47	47	59	42	42	15	11	2	6	56
OTHER/UNKNOWN FIELDS	62	50	54	67	71	40	27	41	26	39	763

Source: NSF/NIH/NEH/USED/USDA, Survey of Earned Doctorates

APPENDIX TABLE B-2a Number of Doctorate Recipients, by Sex, Race/Ethnicity, and Citizenship, 1977, 1982, 1987-1997 (Total All Doctorates)

	Year of Doctorate												
	1977	1982	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997
TOTAL MEN AND WOMEN	31,716	31,111	32,370	33,500	34,327	36,067	37,534	38,890	39,801	41,034	41,743	42,415	42,705*
U.S. Citizens	26,119	24,394	22,984	23,290	23,401	24,905	25,573	26,010	26,449	27,147	27,740	27,741	27,668
Permanent Visas	1,368	1,228	1,578	1,622	1,626	1,698	1,857	1,980	2,259	3,747	4,319	3,765	2,915
Temporary Visas	3,448	4,204	5,612	6,195	6,648	8,093	9,311	9,953	9,932	9,406	8,810	9,610	8,475
Unknown Citizenship	781	1,285	2,196	2,393	2,652	1,371	793	947	1,161	734	874	1,299	3,647
Total Known Race/Ethnicity	29,476	29,089	29,229	30,354	30,955	33,878	35,780	37,193	38,284	39,834	40,330	40,636	38,809
U.S. Citizens	25,019	23,795	22,514	22,907	23,025	24,531	25,085	25,657	26,217	26,893	27,437	27,398	26,861
Permanent Visas	1,291	1,190	1,509	1,545	1,564	1,637	1,796	1,906	2,225	3,699	4,278	3,733	2,858
Temporary Visas	3,053	3,954	5,144	5,840	6,297	7,557	8,788	9,535	9,675	9,114	8,544	9,363	8,255
Unknown Citizenship	113	150	62	62	69	153	111	95	167	128	71	142	835
American Indians	70	77	116	94	94	98	132	152	121	146	149	189	166
U.S. Citizens	65	77	115	94	94	97	130	149	120	143	149	186	149
Permanent Visas★	1	0	0	0	0	0	2	0	0	0	0	1	2
Temporary Visas★	4	0	1	0	0	1	0	2	1	3	0	2	8
Unknown Citizenship	0	0	0	0	0	0	0	1	0	0	0	0	7
Asians	2,056	2,904	4,129	4,780	5,192	6,293	7,528	8,290	8,671	9,367	9,708	9,821	9,017
U.S. Citizens	339	452	543	614	633	641	789	848	891	950	1,140	1,091	1,328
Permanent Visas	571	552	625	621	635	665	742	916	1,126	2,596	3,169	2,606	1,812
Temporary Visas	1,118	1,829	2,935	3,518	3,907	4,931	5,949	6,505	6,604	5,799	5,378	6,093	5,476
Unknown Citizenship	28	71	26	27	17	56	48	21	50	22	21	31	401
Blacks	1,450	1,527	1,221	1,267	1,247	1,354	1,466	1,434	1,615	1,683	1,825	1,837	1,774
U.S. Citizens	1,113	1,048	771	818	822	901	1,010	971	1,111	1,101	1,309	1,315	1,335
Permanent Visas	78	96	139	152	141	149	156	145	169	178	168	142	141
Temporary Visas	247	373	305	291	273	291	293	311	322	389	337	364	250
Unknown Citizenship	12	10	6	6	11	13	7	7	13	15	11	16	48
Hispanics	736	921	1,054	1,048	1,063	1,228	1,319	1,402	1,431	1,534	1,541	1,623	1,676
U.S. Citizens	437	538	617	595	582	721	731	778	834	884	919	950	1,028
Permanent Visas	52	79	91	98	112	116	136	131	139	146	142	155	135
Temporary Visas	236	294	338	349	363	386	446	482	454	502	472	512	442
Unknown Citizenship	11	10	8	6	6	5	6	11	4	2	8	6	71
Whites	25,164	23,660	22,709	23,165	23,359	24,905	25,335	25,915	26,446	27,104	27,107	27,166	26,176
U.S. Citizens	23,065	21,680	20,468	20,786	20,894	22,171	22,425	22,911	23,261	23,815	23,920	23,856	23,021
Permanent Visas	589	463	654	674	676	707	760	714	791	779	799	829	768
Temporary Visas	1,448	1,458	1,565	1,682	1,754	1,948	2,100	2,235	2,294	2,421	2,357	2,392	2,079
Unknown Citizenship	62	59	22	23	35	79	50	55	100	89	31	89	308
Unknown Race/Ethnicity	2,240	2,022	3,141	3,146	3,372	2,189	1,754	1,697	1,517	1,200	1,413	1,779	3,896
U.S. Citizens	1,100	599	470	383	376	374	488	353	232	254	303	343	807
Permanent Visas	77	38	69	77	62	61	61	74	34	48	41	32	57
Temporary Visas	395	250	468	355	351	536	523	418	257	292	266	247	220
Unknown Citizenship	668	1,135	2,134	2,331	2,583	1,218	682	852	994	606	803	1,157	2,812

★In most cases, non-U.S. American Indians are citizens of Canada or of a Latin American country.

* Total includes 384 individuals who did not report sex data.

Source: NSF/NIH/NEH/USED/USDA, Survey of Earned Doctorates

APPENDIX TABLE B-2b Numbers of Doctorate Recipients, by sex, Race/Ethnicity, and Citizenship, 1977, 1982, 1987-1997 (Men)

	Year of Doctorate												
	1977	1982	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997
TOTAL MEN	23,858	21,018	20,938	21,681	21,814	22,961	23,661	24,454	24,679	25,215	25,329	25,470	25,383
U.S. Citizens	19,155	15,563	13,574	13,724	13,396	14,165	14,388	14,519	14,517	14,735	14,967	14,700	14,816
Permanent Visas	1,106	915	1,117	1,164	1,139	1,190	1,224	1,293	1,471	2,637	2,909	2,483	1,825
Temporary Visas	3,009	3,621	4,722	5,134	5,444	6,632	7,517	7,963	7,863	7,330	6,858	7,395	6,464
Unknown Citizenship	588	919	1,525	1,659	1,835	974	532	679	828	513	595	892	2,278
Total Known Race/Ethnicity	22,092	19,540	18,676	19,410	19,404	21,339	22,363	23,177	23,548	24,334	24,308	24,233	22,950
U.S. Citizens	18,307	15,144	13,250	13,448	13,117	13,899	14,032	14,261	14,345	14,566	14,754	14,473	14,304
Permanent Visas	1,040	886	1,064	1,097	1,094	1,150	1,177	1,237	1,446	2,603	2,885	2,460	1,791
Temporary Visas	2,659	3,396	4,314	4,822	5,143	6,174	7,080	7,615	7,654	7,101	6,634	7,205	6,292
Unknown Citizenship	86	114	48	43	50	116	74	64	103	64	35	95	563
American Indians	47	44	63	52	49	52	74	82	61	74	82	103	78
U.S. Citizens	43	44	62	52	49	52	74	82	60	71	82	102	68
Permanent Visas★	0	0	0	0	0	0	0	0	0	0	0	0	2
Temporary Visas★	4	0	1	0	0	0	0	0	1	3	0	1	5
Unknown Citizenship	0	0	0	0	0	0	0	0	0	0	0	0	3
Asians	1,716	2,355	3,350	3,845	4,163	5,031	5,880	6,428	6,617	7,070	7,112	7,205	6,432
U.S. Citizens	251	281	369	414	446	427	483	531	553	591	670	614	759
Permanent Visas	488	444	455	456	459	482	489	605	734	1,878	2,199	1,784	1,142
Temporary Visas	955	1,567	2,506	2,957	3,245	4,077	4,872	5,274	5,292	4,582	4,228	4,783	4,244
Unknown Citizenship	22	63	20	18	13	45	36	18	38	19	15	24	287
Blacks	992	912	702	699	685	733	788	771	842	891	881	933	864
U.S. Citizens	682	484	318	317	328	351	421	396	441	411	490	535	527
Permanent Visas	70	81	118	126	125	128	131	123	138	142	125	106	109
Temporary Visas	234	340	261	251	222	243	232	246	252	330	261	286	194
Unknown Citizenship	6	7	5	5	10	11	4	6	11	8	5	6	34
Hispanics	580	651	677	678	662	760	806	860	875	866	911	931	971
U.S. Citizens	320	345	332	321	307	380	370	410	423	438	460	478	520
Permanent Visas	36	52	50	64	69	69	88	72	94	80	79	86	82
Temporary Visas	214	247	288	288	283	309	344	371	357	346	369	363	320
Unknown Citizenship	10	7	7	5	3	2	4	7	1	2	3	4	49
Whites	18,757	15,578	13,884	14,136	13,845	14,763	14,815	15,036	15,153	15,433	15,322	15,061	14,605
U.S. Citizens	17,011	13,990	12,169	12,344	11,987	12,689	12,684	12,842	12,868	13,055	13,052	12,744	12,430
Permanent Visas	446	309	441	451	441	471	469	437	480	503	482	484	456
Temporary Visas	1,252	1,242	1,258	1,326	1,393	1,545	1,632	1,724	1,752	1,840	1,776	1,772	1,529
Unknown Citizenship	48	37	16	15	24	58	30	33	53	35	12	61	190
Unknown Race/Ethnicity	1,766	1,478	2,262	2,271	2,410	1,622	1,298	1,277	1,131	881	1,021	1,237	2,433
U.S. Citizens	848	419	324	276	279	266	356	258	172	169	213	227	512
Permanent Visas	66	29	53	67	45	40	47	56	25	34	24	23	34
Temporary Visas	350	225	408	312	301	458	437	348	209	229	224	190	172
Unknown Citizenship	502	805	1,477	1,616	1,785	858	458	615	725	449	560	797	1,715

★In most cases, non-U.S. American Indians are citizens of Canada or of a Latin American country.

Source: NSF/NIH/NEH/USED/USDA, Survey of Earned Doctorates

APPENDIX TABLE B-2c Number of Doctorate Recipients, by Sex, Race/Ethnicity, and Citizenship, 1977, 1982, 1987-1997 (Women)

	Year of Doctorate												
	1977	1982	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997
TOTAL WOMEN	7,858	10,093	11,432	11,819	12,513	13,106	13,873	14,436	15,122	15,819	16,414	16,945	17,322
U.S. Citizens	6,964	8,831	9,410	9,566	10,005	10,740	11,185	11,491	11,932	12,412	12,773	13,041	12,852
Permanent Visas	262	313	461	458	487	508	633	687	788	1,110	1,410	1,282	1,090
Temporary Visas	439	583	890	1,061	1,204	1,461	1,794	1,990	2,069	2,076	1,952	2,215	2,011
Unknown Citizenship	193	366	671	734	817	397	261	268	333	221	279	407	1,369
Total Known Race/Ethnicity	7,384	9,549	10,553	10,944	11,551	12,539	13,417	14,016	14,736	15,500	16,022	16,403	15,859
U.S. Citizens	6,712	8,651	9,264	9,459	9,908	10,632	11,053	11,396	11,872	12,327	12,683	12,925	12,557
Permanent Visas	251	304	445	448	470	487	619	669	779	1,096	1,393	1,273	1,067
Temporary Visas	394	558	830	1,018	1,154	1,383	1,708	1,920	2,021	2,013	1,910	2,158	1,963
Unknown Citizenship	27	36	14	19	19	37	37	31	64	64	36	47	272
American Indians	23	33	53	42	45	46	58	70	60	72	67	86	88
U.S. Citizens	22	33	53	42	45	45	56	67	60	72	67	84	81
Permanent Visas★	1	0	0	0	0	0	2	0	0	0	0	1	0
Temporary Visas★	0	0	0	0	0	1	0	2	0	0	0	1	3
Unknown Citizenship	0	0	0	0	0	0	0	1	0	0	0	0	4
Asians	340	549	779	935	1,029	1,262	1,648	1,862	2,054	2,297	2,596	2,616	2,585
U.S. Citizens	88	171	174	200	187	214	306	317	338	359	470	477	569
Permanent Visas	83	108	170	165	176	183	253	311	392	718	970	822	670
Temporary Visas	163	262	429	561	662	854	1,077	1,231	1,312	1,217	1,150	1,310	1,232
Unknown Citizenship	6	8	6	9	4	11	12	3	12	3	6	7	114
Blacks	458	615	519	568	562	621	678	663	773	792	944	904	910
U.S. Citizens	431	564	453	501	494	550	589	575	670	690	819	780	808
Permanent Visas	8	15	21	26	16	21	25	22	31	36	43	36	32
Temporary Visas	13	33	44	40	51	48	61	65	70	59	76	78	56
Unknown Citizenship	6	3	1	1	1	2	3	1	2	7	6	10	14
Hispanics	156	270	377	370	401	468	513	542	556	668	630	692	705
U.S. Citizens	117	193	285	274	275	341	361	368	411	446	459	472	508
Permanent Visas	16	27	41	34	43	47	48	59	45	66	63	69	53
Temporary Visas	22	47	50	61	80	77	102	111	97	156	103	149	122
Unknown Citizenship	1	3	1	1	3	3	2	4	3	0	5	2	22
Whites	6,407	8,082	8,825	9,029	9,514	10,142	10,520	10,879	11,293	11,671	11,785	12,105	11,571
U.S. Citizens	6,054	7,690	8,299	8,442	8,907	9,482	9,741	10,069	10,393	10,760	10,868	11,112	10,591
Permanent Visas	143	154	213	223	235	236	291	277	311	276	317	345	312
Temporary Visas	196	216	307	356	361	403	468	511	542	581	581	620	550
Unknown Citizenship	14	22	6	8	11	21	20	22	47	54	19	28	118
Unknown Race/Ethnicity	474	544	879	875	962	567	456	420	386	319	392	542	1,463
U.S. Citizens	252	180	146	107	97	108	132	95	60	85	90	116	295
Permanent Visas	11	9	16	10	17	21	14	18	9	14	17	9	23
Temporary Visas	45	25	60	43	50	78	86	70	48	63	42	57	48
Unknown Citizenship	166	330	657	715	798	360	224	237	269	157	243	360	1,097

★In most cases, non-U.S. American Indians are citizens of Canada or of a Latin American country.

Source: NSF/NIH/NEH/USED/USDA, Survey of Earned Doctorates